

REMARKS

The application has been reviewed in light of the Office Action mailed on August 29, 2008. Claims 1-27 are pending in this application. Claims 1, 5, 10, 12, 17, 19, 23 and 24 have been amended without addition new matter. Applicant reserves the right to pursue the original claims and other claims in this and other applications. A Request for Continued Examination (RCE) accompanies this paper.

Initially, the Office Action states that the IDS submitted on July 22, 2008 were not considered "because the references could not be found by the Examiner." Reconsideration is respectfully requested, however, because PTO's PAIR database shows that the references were received by the PTO, as does the PTO-stamped post card that was returned to the Applicant.

Claims 1-3 and 26 stand rejected under 25 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,240,424 to Hirata ("Hirata") in view of U.S. Patent Application No. 2005/0131951 to Zhang et al. ("Zhang"). Reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

Claim 1 has been amended to further distinguish over the cited references. Amended claim 1 recites a method of classifying an image, including the step of displaying one or more representative images in an order based on a "predetermined similarity level which is determined according to a distance between two points inside a feature vector space." Claim 1 has been further amended to recite "wherein the similarity level between the query image and the representative image increases as the distance between the two points is closer towards 0."

This is an important feature of the claimed invention. For example, a sum of the difference between the numbers of pixels of the two features in respective regions are generally used as the distance between two features in a feature space of histogram. See, for example, page 24, lines 17-24 of the specification. The claimed invention is not limited by the disclosed embodiments.

Hirata and Zhang, whether taken alone or in combination, fail to teach or suggest the limitations of amended claim 1. Hirata does not disclose displaying images in an order based on a predetermined similarity level which is determined according to a distance inside a feature vector space, and the Office Action does not contend otherwise. See Office Action at 8.

Zhang describes a feature matcher 152 that identifies images in an image database that contain low level features resembling the example image. Paragraph [0078]. Zhang also describes a distance calculator 214 that calculates similarity distances between feedback images and candidate images, and a ranking module 216 that ranks the images. Paragraphs [0079]-[0080]. Zhang does not, however, disclose that the images are displayed “in an order based on the predetermined similarity level.” In Zhang, the highest ranking images are returned to the user as a “preferred results set.” *Id.* The classification by Zhang’s ranking module 216 is merely categorical in nature, and the individual images in the “preferred results set” are not displayed in any particular order.

Moreover, Zhang does not teach or suggest a similarity level that increases as the distance between two points in a vector space is closer towards 0. Zhang’s distance calculator 214 does not meet this element, because it does not describe a variable similarity level that increases as the distance between two points in vector space decreases. The ranking module 216 does not meet this element, because it merely orders the images so that a sub-set can be displayed. In paragraph [0094], Zhang does describe that each image is represented as a vector in a feature space, but this is in reference to the positive feedback process implemented by the relevance feedback monitor 220. This process occurs only after initial results have already been displayed and a user has provided feedback. See Paragraph [0081], [0082], Fig. 2. The vector space calculations are implemented to adjust results in order to take into account positive and negative feedback. *Id.* These calculations require feedback from the user, and thus do not meet the method of claim 1, wherein the similarity level is calculated by comparing image features of a query image and a representative image. Though Zhang does contain distance calculations and vector calculations, these elements do not teach a similarity level that increases as the distance between two points in vector space is closer towards 0.

Thus, Hirata and Zhang, whether taken alone or in combination, fail to teach or suggest “displaying one or more representative images in an order based on the predetermined similarity level which is determined according to a distance between two points inside a feature vector space; wherein the similarity level between the query image and the representative image increases as the distance between the two points is closer towards 0.” For at least this reason, amended claim 1 is allowable. Claims 2, 3 and 26 depend from claim 1 and contain all of the limitations of claim 1. Claims 2, 3 and 26 should be allowed based on at least the same reasons as for allowance of claim 1, and for other reasons.

Claim 4 stands rejected under 25 U.S.C. 103(a) as being unpatentable over Hirata in view of Zhang and further in view of U.S. Patent Application No. 2003/0011683 to Yamasaki et al. (“Yamasaki”). Claim 4 depends from claim 1 and includes every limitation of claim 1. As discussed above, claim 1 is allowable over Hirata in view of Zhang, and Yamasaki fails to add anything to remedy the deficiencies of the references with respect to claim 1. Therefore, claim 4 is allowable for at least the same reasons that claim 1 is allowable.

Claims 5-7, 12-14, 19-21 and 27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over an article titled “Recursive Space Decompositions in Force-Directed Graph Drawing Algorithms” (“Pulo”) in view of U.S. Patent Application 2003/0198384 to Vrhel (“Vrhel”) and further in view of Zhang. Reconsideration is respectfully requested.

Amended claims 5, 12 and 19 have been amended to further distinguish over the cited references. For example, amended claim 5 recites a method “wherein the distance between two points in the feature space become shorter in correlation to increase of similarity of images; and wherein the similarity of images increases as the distance between the two points is closer towards 0.” For reasons similar to those discussed above in reference to claim 1, these elements are not disclosed in Zhang. Vrhel and Pulo fail to add anything to remedy Zhang’s deficiencies with respect to claim 5. Claims 12 and 19 have been similarly amended. Thus, claims 5, 12, and 19 are allowable for at least the same reasons that claim 1 is allowable.

Claims 6, 7 and 27 depend from claim 5 and are allowable for at least the same reasons that claim 5 is allowable. Claims 13 and 14 depend from claim 12 and are allowable for at least the same reasons that claim 12 is allowable. Claims 20 and 21 depend from claim 19 and are allowable for at least the same reasons that claim 19 is allowable.

Claims 8, 9, 15, 16, 22 and 23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Pulo in view of Vrhel in view of Zhang and further in view of Hirata. Reconsideration is respectfully requested.

Claims 8 and 9 depend from claim 5; claims 15 and 16 depend from claim 12; and claims 22 and 23 depend from claim 19. As discussed above, amended claims 5, 12 and 19 are allowable over the proposed combination of Pulo, Vrhel and Zhang. Hirata adds nothing to remedy the deficiency of the references. Claims 8, 9, 15, 16, 22 and 23 are therefore allowable based on the reasons for allowance of their base claims, and for other reasons.

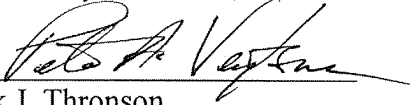
Claims 10, 11, 17, 18, 24, and 25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Pulo in view of Vrhel in view of Zhang and further in view of U.S. Patent Application Publication Number 2003/0059121 to Savakis et al. ("Savakis"). Reconsideration is respectfully requested.

Independent claims 10, 17 and 24 have been amended similar to claim 5 and, as discussed above, are allowable over the proposed combination of Pulo, Vrhel, and Zhang. Savakis adds nothing to remedy the deficiency of the references, and claims 10, 17 and 24 are allowable for the reasons claim 5 is allowable, as discussed above. Dependent claims 11, 18 and 25 contain all of the limitations of their base claims, and should be allowed for similar reasons.

In view of the above amendments and remarks, applicant believes the pending application is in condition for allowance. If there are any additional charges in connection with this filing or any subsequent filings (including but not limited to issue fees), the Examiner is respectfully requested and authorized to charge Deposit Account No. 04-1073 therefor under Order No. R2184.0240/P240.

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Respectfully submitted,

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